

HUMAN THRIVING In the Age of AI

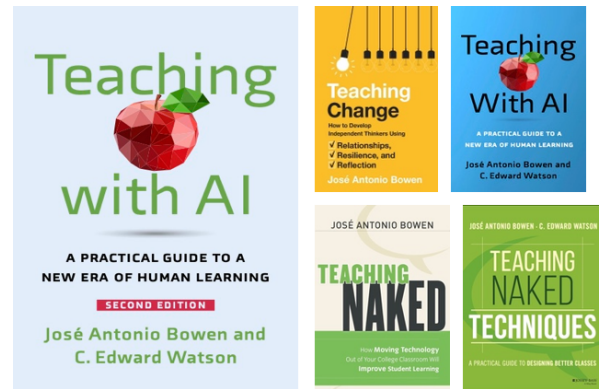
SLIDES & CITATIONS

José Antonio Bowen

Get the [2nd Edition of Teaching with AI](#).
Discount code HTAI25 = 30% off at JHUP.

WebSite: <https://WeTeachWithAI.com/>

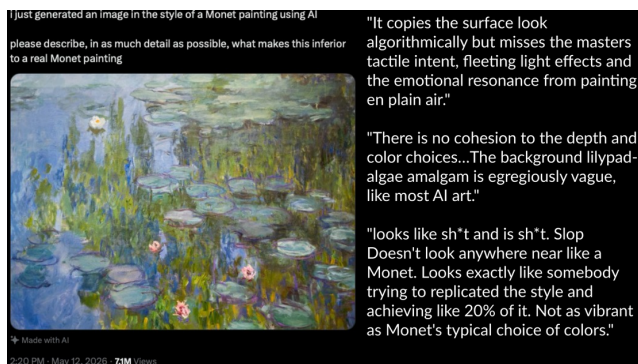
► [Workshop Prompts & Materials](#)



Before we design anything, most teenagers are already using AI — and using it socially.

Common Sense Media. (2025). Talk, trust and trade-offs: How and why teens use AI companions.

https://www.common Sense Media.org/sites/default/files/research/report/talk-trust-and-trade-offs_2025_web.pdf



Lee, A., & Culver, M. (2026, March). Youth, AI, and the relationships

WORKING & THINKING

AI as the new AVERAGE

COMMUNICATION & RELATIONSHIPS

CREATIVITY

AI as LABOR

that
shape
them.
The
Rithm

(79% aged 13-18); cross-sectional self-report, not peer-reviewed. 15% talk to AI characters and that group carries the highest dependence and displacement markers; risk tracked the quality of human relationships, not the quantity]

<https://www.therithmproject.org/research>

Project / YouGov. [nationally weighted survey, n = 2,383 ages 13-24

Albania's new anti-corruption minister



Diella

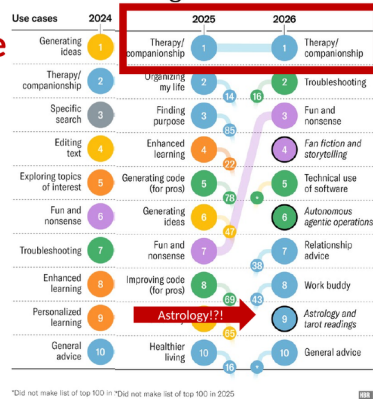
Diella ("sun" in Albanian). In September 2025 Albania appointed an AI system as Minister of State for Artificial Intelligence — the first cabinet-level AI role in the world — with plans to hand it public-procurement decisions to reduce corruption.

► [Albania introduces AI-powered minister to end corruption in public procurement \(Global Government Forum\)](https://www.globalgovernmentforum.org/2025/09/25/albania-introduces-ai-powered-minister-to-end-corruption-in-public-procurement/)

From Technical Use to Emotional Use



19 Creative Writing
26 Reconciling Disputes
28 Homework
32 Safe Space to Ask
57 Seeing Blind Spots
61 Deep Conversations
86 Talking to the Dead



Zao-Sanders, M. (2025, April 9; 2026, June 1). How people are really using AI. Harvard Business Review.

<https://hbr.org/2026/06/how-people-are-really-using-ai-in-2026>

ElevenLabs

- Dr. Maya Angelou™
Acclaimed poet, author, and Presidential Medal of Freedom recipient, honored for her profound...
- John Wayne™
Iconic American film actor and director, remembered for his roles as Western heroes...
- Judy Garland™
Beloved American actress and singer, immortalized as Dorothy in The Wizard of Oz and a major...
- Michael Caine™
The British actor legend who has appeared in over 100 films, Academy Award winner, celebrated...
- Richard Feynman™
Nobel Prize-winning theoretical physicist, celebrated for his pioneering work in quantum...
- Sir Laurence Olivier™
Knighted British actor and director, multiple Academy Award and Emmy winner, revered as one...
- Alan Turing™
Pioneering mathematician and codebreaker, awarded the Order of the British Empire and...
- Amelia Earhart™
Aviation pioneer and navigator of the Distinguished Flying Cross, honored for breaking gender...
- Art Garfunkel™
Renowned American vocalist, poet, and actor, best known for his ethereal voice and contribute...



Customize or Create
Voices in any language



Qwen3-TTS



Grok Voice Agents

Customize or create voices in any language.

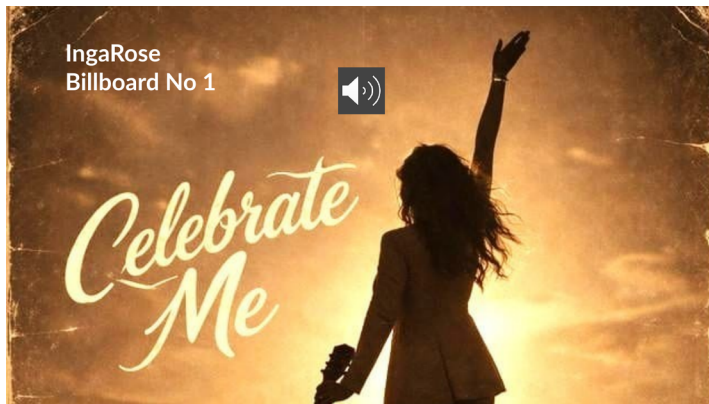
- [ElevenLabs Iconic Marketplace](https://elevenlabs.com/marketplace/)
- [Grok Voice Agents](https://grok.com/voice-agents/)



VIDEO

Agatha Christie now teaches an online writing course — reconstructed from her archive with AI.

- [Writing with Agatha Christie \(BBC Maestro\)](https://www.bbc.com/maestro/programmes/writing-with-agatha-christie)



"Celebrate Me" — IngaRose (slide 4)

A synthetic R&B performer who does not exist, on a track made with Suno, went to No. 1 on the iTunes chart in the US, UK, France, Canada, New Zealand and globally in April 2026.

Murray, C. (2026, April 17). The No. 1 song on U.S. iTunes — and several other countries — is AI generated. Forbes. [trade press; iTunes sales chart, not the Billboard Hot 100] <https://www.forbes.com/sites/conormurray/2026/04/17/the-no-1-song-on-us-itunes-and-several-other-countries-is-ai-generated/>

Friedman, R. (2026, April 16). iTunes gamed again with another AI singer at number 1. Showbiz411. [trade press opinion; alleges chart manipulation — contested, and worth naming as contested] <https://www.showbiz411.com/2026/04/16/exclusive-itunes-gamed-again-with-another-ai-singer-at-number-1-ingarose-follows-eddie-dalton-as-fake-hit-performer>

Berklee Online

All Programs Degree Certificates Courses Admissions

Online Undergraduate-Level Course

AI for Songwriters

(4 Week Course)

Author: [Berklee Online](#) | Course Code: 06290-200

Discover how artificial intelligence can support and expand your songwriting process. This four-week undergraduate songwriting course introduces practical AI tools for generating lyrics, melodies, and musical ideas while addressing creative workflow, ethical considerations, and industry impact.

LEVEL: Foundation

REQUIREMENTS: Online

LENGTH: 4 Weeks

3 CREDIT CREDITS: 3335

ESTIMATED STARTS: June 25

Key Learning Outcomes

- ✓ Write original songs using current AI tools for lyrics, melody, and musical idea generation
- ✓ Integrate AI-generated content into your songwriting process while generating your personal creative voice
- ✓ Use text- and audio-based AI tools to generate ideas, explore new styles, and overcome creative blocks
- ✓ Develop an informed, ethical perspective on responsible AI use and its impact on songwriters and the music industry

Course Description

AI for Songwriters is designed for songwriters who are eager to explore how artificial intelligence (AI) can enhance their creativity. Whether you're new to AI or have some experience, this course will introduce several AI topics and show you how to use them to generate fresh musical ideas, craft unique lyrics, and compose catchy melodies. You'll learn practical methods to integrate AI into your songwriting process, helping you overcome creative blocks, discover new inspirations, and support your artistic vision. We'll also examine the ethical implications of creative AI use and its impact on the music industry. Through hands-on projects and real-world examples, this course equips you with the skills and knowledge to stay ahead in the evolving world of music creation.

Syllabus

- ▶ **Lesson 1** Text GenAI Tools for Songwriting and Production
- ▶ **Lesson 2** Audio GenAI Tools for Songwriting and Production
- ▶ **Lesson 3** AI and Vocals in Songwriting and Production
- ▶ **Lesson 4** AI-Enhanced Songwriting: New Horizons

Requirements

Prerequisites and Course-Specific Requirements

Prerequisite Courses, Knowledge, and/or Skills

Students should have:

- A basic working knowledge of music production, including experience with a DAW
- A foundational understanding of songwriting, including experience writing at least three songs and familiarity with terms like "verse" and "chorus."

Software

- Digital Audio Workstation (DAW) or multi-track audio editor/recorder. Free options, such as GarageBand (Mac), Cakewalk by BandLab (PC), or Audacity, are acceptable.
- Each of the following generative AI application types are required:
 - Text-to-text, such as ChatGPT, Gemini, and Claude
 - Text-to-audio, such as Suno, Udio, and Jammable
 - Large language model-based chatbot, such as ChatGPT or Claude (free versions sufficient)
- Word processing software, such as Microsoft Word, Google Docs (free), Apple Pages, Apache OpenOffice (free), etc.

Berklee Online now sells a four-week, undergraduate-level course in AI for songwriters: generating lyrics, melody and vocals, and the ethics of doing so.

▶ [Berklee Online — AI for Songwriters](#)



▶ [NASA — Goddard turns to AI to design mission hardware](#)

McClelland, R. (2024). Evolved structures, generative design and digital manufacturing at GSFC. NASA Goddard Space Flight Center. [agency presentation] <https://science.nasa.gov/wp-content/uploads/2024/03/evolved-structures-ryan-mcclelland.pdf>

Quality from Quantity

In order to have good ideas, you need a lot of ideas.

Linus Pauling



Quantity of ideas

is the greatest predictor of innovative success

Girotra, K., Meincke, L., Terwiesch, C., & Ulrich, K. T. (2023). Ideas are dimes a dozen: LLMs for idea generation in innovation. SSRN. <https://ssrn.com/abstract=4526071>

De Freitas, J., Nave, G., & Puntoni, S. (2025, December 17). When used correctly, LLMs can unlock more creative ideas. Harvard Business Review.

Doshi, A. R., & Hauser, O. P. (2024). Generative AI enhances individual creativity but reduces the collective diversity of novel content. Science Advances, 10. <https://doi.org/10.1126/sciadv.adn5290>



AI is Changing
WORKING and THINKING

AI Is Changing
AVERAGE

AI is Changing
CREATIVITY

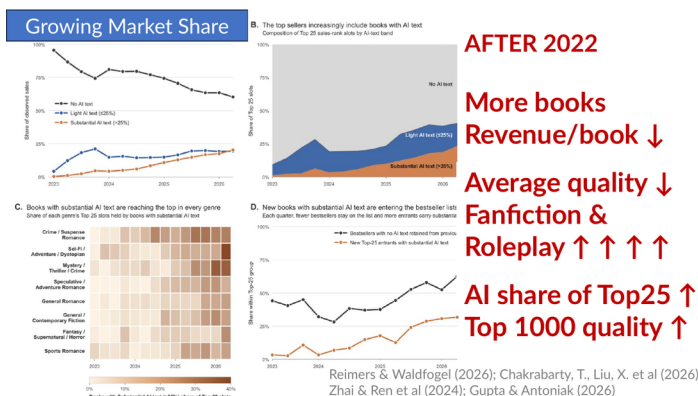
"Weird & Cheap Halloween Costumes"
Ethan Mollick, Oct 31, 2025

Ethan Mollick, "Weird & Cheap Halloween Costumes," 31 October 2025.

► [One Useful Thing \(Ethan Mollick\)](#)

Reimers, I., & Waldfogel, J. (2026). AI and the quantity and quality of creative products: Have LLMs boosted creation of valuable books? NBER Working Paper 34777. [working paper] <https://doi.org/10.3386/w34777>

Chakrabarty, T., Liu, X., et al. (2026, July). Generative AI floods and dilutes the market for books. arXiv [preprint]. <https://arxiv.org/pdf/2607.20349>



AFTER 2022

More books
Revenue/book ↓

Average quality ↓
Fanfiction &
Roleplay ↑ ↑ ↑ ↑

AI share of Top25 ↑
Top 1000 quality ↑

The fanfiction and roleplay line comes from the WildChat corpus: in more than 500,000 consented, English-language ChatGPT conversations, over a third involve generating fiction, especially fanfiction and erotica which generate what the authors call a "solipsistic reader-writer," "who both generates and consumes fiction within a closed conversational loop."

Gupta, N., Antoniak, M., & Walsh, M. (2026, June 23). AI fiction in the wild. arXiv [preprint; provisionally forthcoming in MFS: Modern Fiction Studies]. <https://arxiv.org/abs/2606.22748>

Zhao, W., Ren, X., Hessel, J., Cardie, C., Choi, Y., & Deng, Y. (2024). WildChat: 1M ChatGPT interaction logs in the wild. ICLR 2024. [consented corpus of 1M conversations; the dataset behind Gupta et al.] <https://arxiv.org/abs/2405.01470>



AI THREATS TO HUMAN THRIVING



► [What Uses More? — Jon Ippolito's interactive comparison of the environmental footprint of digital tasks \(University of Maine\)](#)



► **José Antonio Bowen AI Avatar**
Produced with HeyGen version 1



AlterEgo: a near-telepathic AI interface from MIT.

► [AlterEgo](#)
► [MIT Media Lab — startup lets you query AI with silent speech](#)

Kapur, A., Kapur, S., & Maes, P. (2018). AlterEgo: A personalized wearable silent speech interface. IUI '18. <https://doi.org/10.1145/3172944.3172977>

► [Apple buys Q.ai for \\$2B](#)

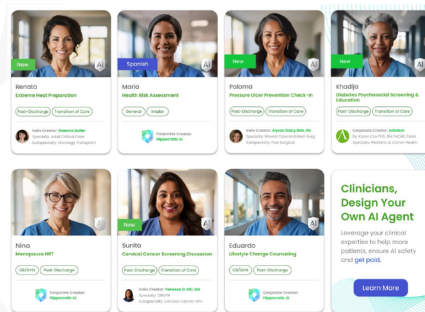
HS students submitting research as part of their application must also complete an AI oral verification from Viva Exam.



- [Caltech — research papers and publications](#)
- [Viva Exam](#)



Hippocratic AI
— Do No Harm —



- [Hippocratic AI](#)



Grandma Daisy: British telecom O2 built “dAIsy,” a lifelike AI granny trained with the help of scam baiter Jim Browning, whose job is to keep fraudsters on the line — sometimes 40 minutes at a time — with rambling stories about her grandchildren.

Virgin Media O2. (2024, November 14). O2 unveils Daisy, the AI granny wasting scammers’ time.
<https://news.virginmediao2.co.uk/o2-unveils-daisy-the-ai-granny-wasting-scammers-time/>

WHICH TASKS!?!



Interactive Face Engines (Avatars)

HeyGen, Tavus, Synthesia

+ Knowledge Base (Retrieve)

+ Agentic (Write)

1. Campus Engagement (inside ERP or CRM)

Mainstay, Gravyty, Element451/Bolt.

Example: **UCF's Knightbot** (Mainstay)

487 messages/day

85% resolved without a human

7 seconds on average

14-40% increase in registrations

=6 FT staff a year

1.6% opt out.

List of AI Tools



List of AI Integrators



I'm here to help with general questions about UCF!



Knightbot is UCF's own brand for a Mainstay deployment.

► [List of AI Tools](#)

► [List of AI Integrators](#)

► [UCF Knightbot](#)

► [Mainstay](#)

► [Gravyty \(Ivy & Ocelot\)](#)

► [Element451 / Bolt](#)

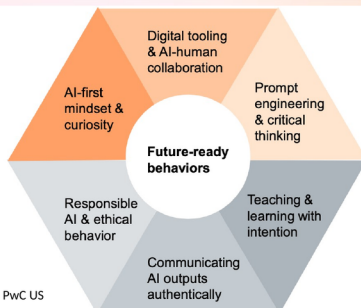
UCF News. Enhancing student support: How UCF's Knightbot transforms the college experience. [practitioner case study, not an evaluation] <https://www.ucf.edu/news/enhancing-student-support-how-ucfs-knightbot-transforms-the-college-experience/>

[experience/](#)

Gravyty. (2025, March 11). Gravyty, Ivy.ai, and Ocelot unite to transform student and alumni engagement. [company announcement; note that Ocelot and Ivy.ai are now one company under the Gravyty brand] <https://gravyty.com/gravyty-ocelot-ivy-join-forces/>



Future-ready behaviors



© 2025 PwC US

AI Usage
**MONITORED
& REQUIRED**

4x/day
MINIMUM

AI use at PwC is monitored and required. PwC US CEO Paul Griggs: anyone who thinks they can "opt out" of AI is "not going to be here that long." Accenture staff must demonstrate "regular adoption," with usage tracked, for promotions.

Accounting Today. (2026, March). PwC CEO: You cannot opt out of AI.

The Register. (2026, March 19). PwC AI.

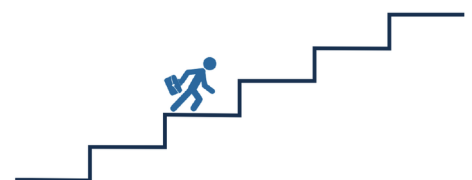
https://www.theregister.com/2026/03/19/pwc_ai/

"What salary should I request?" The answer the model gives you reflects the bias in reality.

Sorokovikova, A., et al. (2025). Surface fairness, deep bias: A comparative study of bias in language models. arXiv [preprint]. <https://arxiv.org/pdf/2506.10491>

Salary boost to employees acquiring AI skills, by department*
Weighted average percentage increase in salary indicated by employers

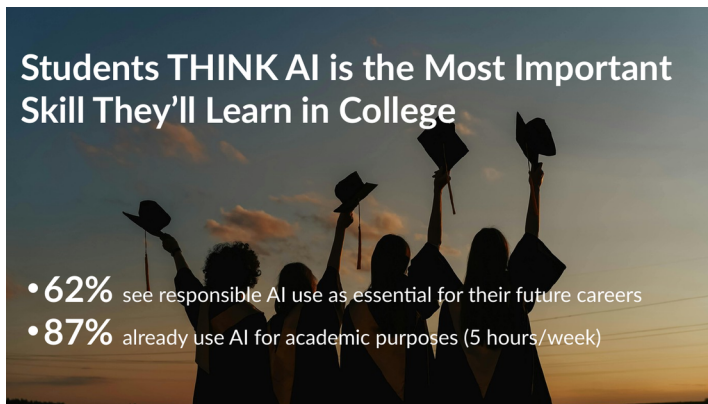
AI and Salaries





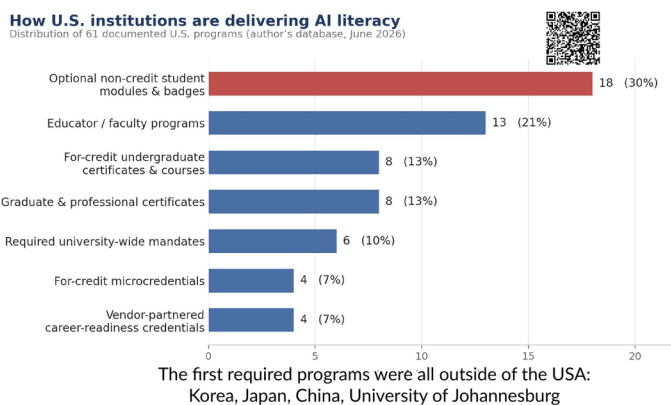
42% of bachelor's students report considering changing their major because of AI; 16% report they already have.

Gallup. (2026, April 2). College students weigh AI's impact on majors and careers.
<https://news.gallup.com/poll/704087/college-students-weigh-impact-majors-careers.aspx>



Grammarly / Talker Research survey of 2,000 U.S. college students (2025, July), reported in Newsweek. [attitude survey; industry-commissioned]

ETS. (2026). 2026 ETS human progress report: 50 states edition. [61% of employed U.S. college graduates say their university did not adequately prepare them for the workforce; 59% say their degree did not align with employers' needs]
<https://www.in.ets.org/content/dam/ets-org/pdfs/human-progress-report/2026-ets-human-progress-report-50-states-edition.pdf>



The first required AI literacy programs were all outside the USA: Korea, Japan, China, University of Johannesburg.

► [Global survey of AI literacy programs — shared Google Sheet](#)



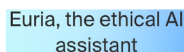
AI Disclosure

- Where did you use AI?
- What did you do without AI?



AI Literacy

- Where did AI make your work better or worse?
- What AI work did you alter?
- What would you have missed without AI?
- How did you know?



WeTeachWithAI.com/models

Different AI models excel at different things. Open a fresh browser window and compare them; each tool opens in a new tab.

► [A range of AI models — WeTeachWithAI.com/models](https://www.anthropic.com/research/claude-values-models-languages)

Claude (and probably all of the major models) respond very differently in different languages.

► <https://www.anthropic.com/research/claude-values-models-languages>

Write a paragraph about X...

Write a paragraph about X that will demonstrate to a college professor your most formidable capabilities using high quality verifiable sources. Explain your research and deep thinking.

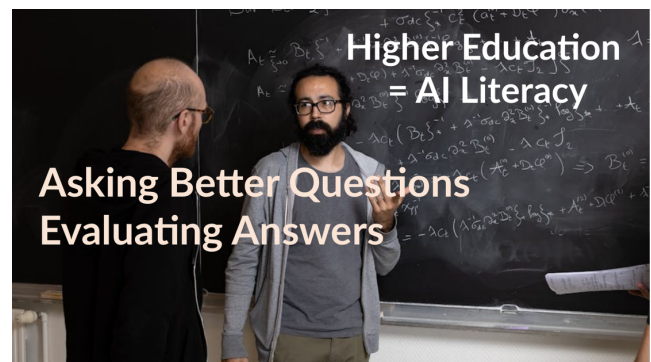


Ask for the model's best work

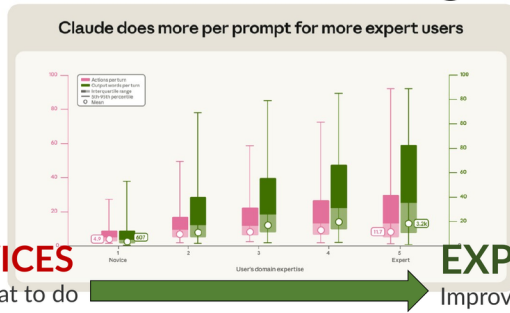
Write a paragraph about X that will demonstrate to a college professor your most formidable capabilities using high quality verifiable sources. Explain your research and deep thinking.

PROMPTING IS WRITING PRECISE & CLEAR LANGUAGE

- Iterate
- Start with what you know
- Small changes make a difference



AI is the new Average

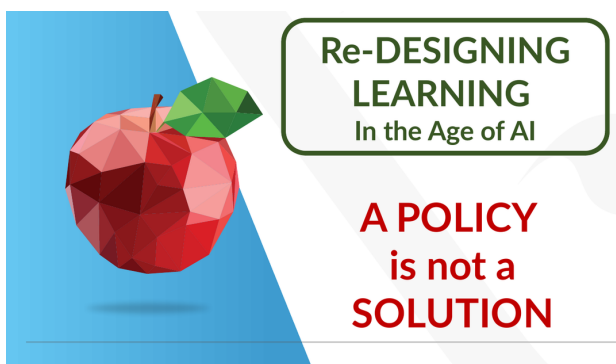


AI is the new average: novices ask what to do, experts improve results.

Hitzig, Z., Massenkoff, M., et al. (2026, June 16). Agentic coding and persistent returns to expertise. Anthropic. [vendor research]

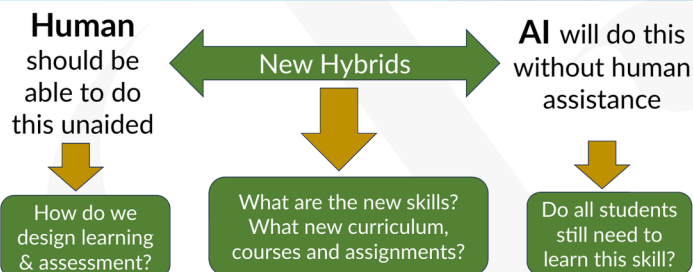
<https://cdn.sanity.io/files/4rzovbb/website/b93c7465925dc052b9102209b29b58f11df4fe55.pdf>

RE-DESIGNING LEARNING



How does AI alter our Learning Goals?

► [Full principles, templates and examples](#)



When students use AI without guidance

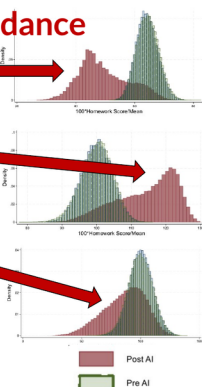
↓ 30% Time on Homework

↑ 18% Homework Grades

↓ 20% Exam Scores

Largest Learning Loss

- Social Science, STEM and Languages
- Younger, High-Achieving & Boys.
- Shorter Homework Completion Time
(26,811 Chinese Students in grades 7-12)



Strömberg, D., Lei, V., & Wu, Y. (2026). The generative AI learning penalty: Evidence from Chinese secondary education (CEPR Discussion Paper No. 21577). [working paper]
<https://cepr.org/publications/dp21577>

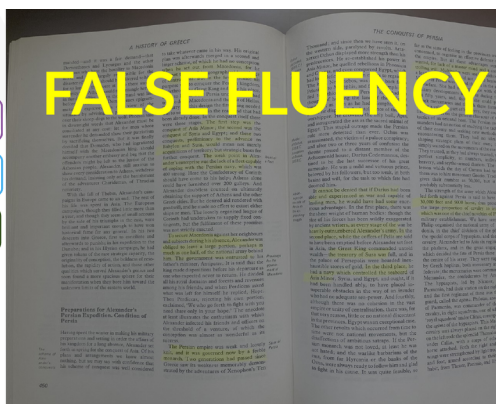
AI Synthesis

Less time engaging

Shallower knowledge

"Metacognitive Laziness"

Stadler et al. (2024)
Melumad & Yun (2025)
Kreijkes et al. (2025)
Fan et al. (2025);
Lee et al. (2025);
Kreijkes et al. (2025);
Kosmyna et al. (2025, preprint);
Gerlich (2025, corrected)



The mechanism behind the numbers on the previous slides. AI synthesis removes the friction that made synthesis learning, so students spend less time engaging, build shallower knowledge and come away fluent-sounding about material they cannot reconstruct. Fan et al. named the behaviour "metacognitive laziness."

Stadler, M., Bannert, M., & Sailer, M. (2024). Cognitive ease at a cost: LLMs reduce mental effort but compromise depth in student scientific inquiry. *Computers in Human Behavior*, 160, 108386. <https://doi.org/10.1016/j.chb.2024.108386>

Melumad, S., & Yun, J. H. (2025). Experimental evidence of

the effects of large language models versus web search on depth of learning. *PNAS Nexus*, 4(10), pgaf316.

<https://doi.org/10.1093/pnasnexus/pgaf316>

Kreijkes, P., et al. (2025). Effects of LLM use and note-taking on reading comprehension and memory: A randomised experiment in secondary schools. *SSRN* [preprint — final venue not yet verified].

Fan, Y., et al. (2025). Beware of metacognitive laziness: Effects of generative artificial intelligence on learning motivation, processes, and performance. *British Journal of Educational Technology*, 56(2), 489–530. [RCT, 117 students: essay scores up, no gain in knowledge or transfer] <https://doi.org/10.1111/bjet.13544>

Lee, H.-P., et al. (2025). The impact of generative AI on critical thinking. *CHI '25*. [confidence in AI ↔ less critical thinking]
<https://doi.org/10.1145/3706598.3713778>

Kosmyna, N., et al. (2025). Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing. *arXiv* [preprint; small sample — cite as a cultural phenomenon, not as evidence]. <https://arxiv.org/abs/2506.08872>

Gerlich, M. (2025). AI tools in society. *Societies*, 15(1), 6. [self-report perception data, 666 participants; formally corrected September 2025] <https://doi.org/10.3390/soc15010006>



Marken, S. (2026, April 2). AI is routine for college students, despite campus limits. *Gallup Education*.

Oakley, B., Johnston, M., Chen, K.-Z., Jung, E., & Sejnowski, T. J. (2025). The memory paradox: Why our brains need knowledge in an age of AI. *SSRN* [preprint — final venue not yet verified].

Kestin, G., Miller, K., Kiales, A., Milbourne, T., & Ponti, G. (2025). AI tutoring outperforms in-class active learning. *Scientific Reports*, 15, 17458. [Harvard RCT, N = 194]
<https://doi.org/10.1038/s41598-025-97652-6>



The Design is the Intervention, not the tool

WeTeachWithAI.com

1. Students SAY they use AI carefully and for learning, but
2. Explaining (the top use) reduces the friction of synthesis, so
3. When use is unguided, homework improves, exam scores fall.
4. AI disrupts self-assessment: students overestimate learning.
5. AI tools that withhold answers have produced learning gains.
6. AI can support focus by reducing extraneous cognitive load.

effect of ChatGPT on students' learning performance. [preprint reanalysis behind the retraction]
https://doi.org/10.31234/osf.io/8vs32_v1

► Full principles, templates and examples

Li, C., Cui, H., & Hagedorn, L. S. (2026). The cognitive impact of ChatGPT in higher education: A systematic review of critical and creative thinking outcomes. *Computers and Education: Artificial Intelligence*, 10, Article 100571. [PRISMA review of 67 empirical studies]

<https://doi.org/10.1016/j.caeai.2026.100571>

Wang, J., & Fan, W. (2025). RETRACTED (22 April 2026): The effect of ChatGPT on students' learning performance... *Humanities and Social Sciences Communications*, 12, 621. [RETRACTED — never cite as evidence]

<https://doi.org/10.1057/s41599-025-04787-y>

Bartoš, F., Martinková, P., & Wagenmakers, E. (2025, May 12). Adjusting for publication bias reveals no evidence for the

LIMITS. The strongest evidence of harm comes from secondary students outside the United States; the strongest evidence of benefit



AI Is Changing
AVERAGE

**Work with AI to
RAISE STANDARDS**

comes from elite, high-structure settings such as Harvard. The typical university classroom sits in the understudied middle. Most of these studies measure exam scores; we still lack long-term evidence about durable, transferable learning.

Let AI produce the raw material — the brief, the data, the opposing positions — and make the human work the part that cannot be delegated: convening, weighing, choosing and defending. The gradable artifact is the judgment, not the prose.

► Assignment examples

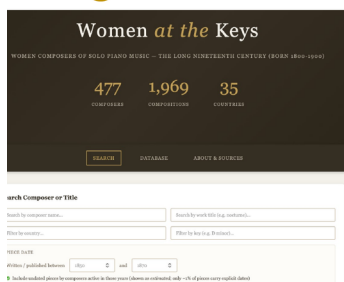
Singh, A., Guan, Z., & Rieh, S. Y. (2025). Enhancing critical thinking in generative AI search with metacognitive prompts. *Proceedings of ASIS&T*, 62(1), 672–684. <https://doi.org/10.1002/pr2.1287>

Suriano, R., Plebe, A., Acciai, A., & Fabio, R. A. (2025). Student interaction with ChatGPT can promote complex critical thinking skills. *Learning and Instruction*, 95, 102011. <https://doi.org/10.1016/j.learninstruc.2024.102011>

Vibe Coding + Agent



Prompt



STEP 1

Do an exhaustive search of academic resources about 19th century women composers of solo piano music.

STEP 2

Create a searchable global data base...

STEP 3

Create a **website**



STEP 4

Find sheet music not on my computer...

STEP 5

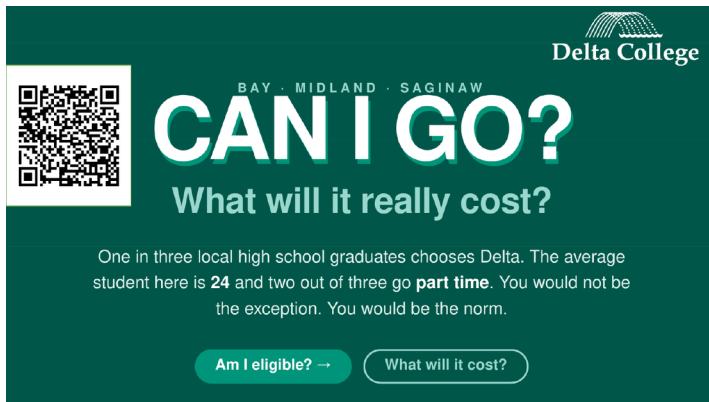
Order missing works from ILL...



Cecilia Arizti (1856-1930)

► The full prompt, workflow and the versions produced by different AI models

► The result — Women at the Keys



Delta College
BAY · MIDLAND · SAGINAW

CAN I GO?

What will it really cost?

One in three local high school graduates chooses Delta. The average student here is **24** and two out of three go **part time**. You would not be the exception. You would be the norm.

Am I eligible? → What will it cost?

Delta College: Can I Go? (slide 46)

A campus front door built for this session, in one prompt.

► [Delta College: Can I Go? \(demo — not an official Delta service\)](#)

Delta College. Facts & figures; Institutional Research, graduation, transfer-out and retention rate trends (IPEDS Student Right-to-Know). [institutional data; the published rates describe the FTIAC cohort, roughly nine percent of the student body] [URL not verified]

TURN & TALK (slide 48). What idea about AI are you now rethinking?

CAN WE ADAPT TO IMPROVE HUMAN THRIVING?



EVERYONE IS NOW AN

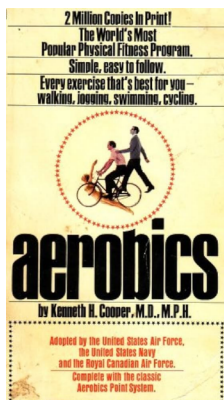
AI Manager



- Which tasks should you delegate?
- AI needs direction, feedback & correction.
- AI delegation is a skill, not a shortcut.
- AI needs your judgment.

AI is changing work: 50% say they use AI as much for work as for personal tasks; 27% say AI is replacing human tasks; 21% say AI is doing new tasks.

Epoch AI. (2026, April 9). Polling on AI usage. <https://epoch.ai/data/polling/>



**Dr. Kenneth H. Cooper
(1968)**

**“The Streets Are
Going to Be Full of
Dead Joggers”**

ETS. (2026). 2026 ETS human progress report: 50 states edition. Harris Poll, 15,357 U.S. adults; global N = 32,558 across 18 countries. [54% of U.S. workers feel underprepared; 78% say job security no longer exists without continuous adaptation; 58% report fear of becoming obsolete] <https://www.in.ets.org/content/dam/ets-org/pdfs/human-progress-report/2026-ets-human-progress-report-50-states-edition.pdf>

Cooper, K. H. (1968). *Aerobics*. M. Evans/Bantam. [the “dead joggers” line is from a review from the period, not a quotation from the book]

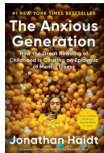
Cooper, K. H. (2018). The history of aerobics (50 years and still counting). *Research Quarterly for Exercise and Sport*, 89(2), 129–134. <https://doi.org/10.1080/02701367.2018.1452469>

IS COGNITIVE FITNESS IS DECLINING?

↓ Poorer
Cognition

📱 Lower
Attention

😞 Worse
Mental
Health



When is AI junk food for the mind?



A meta-analysis of 71 studies (98,299 participants) links heavy short-form video use to poorer cognition ($r = -.34$), lower attention ($r = -.38$) and poorer mental health ($r = -.21$). Even the mere presence of a smartphone lowers cognitive performance.

Nguyen, L., et al. (2025). Feeds, feelings, and focus: A systematic review and meta-analysis examining the cognitive and mental health correlates of short-form video use. *Psychological Bulletin*, 151(9), 1125–1146.

<https://psycnet.apa.org/fulltext/2026-89350-001.html>

Skowronek, J., et al. (2023). The mere presence of a smartphone reduces basal attentional performance. *Scientific Reports*, 13, 9363. <https://doi.org/10.1038/s41598-023-36256-4>

Gerlich, M. (2025). AI tools in society: Impacts on cognitive offloading and the future of critical thinking. *Societies*, 15(1), 6. [self-report perception data; formally corrected September 2025] <https://doi.org/10.3390/soc15010006>

COGNITIVE DELEGATION TO AI CAN

↓ REDUCE
Cognitive Effort

⚠️ DIMINISH
Rewarding Tasks

↑ RAISE
Expectations

✂️ INCREASE
Context Switching

Budzyń, K., et al. (2025). Endoscopist deskilling risk after exposure to artificial intelligence in colonoscopy. *The Lancet Gastroenterology & Hepatology*, 10, 896–903.

[https://doi.org/10.1016/S2468-1253\(25\)00133-5](https://doi.org/10.1016/S2468-1253(25)00133-5)

Lodge, J. M., & Loble, L. (2026). Artificial intelligence, cognitive offloading and implications for education. University of Technology Sydney.

<https://doi.org/10.71741/4pyxmbnjq.31302475.v2>

Zhai, C., Wibowo, S., & Li, L. D. (2024). The effects of over-reliance on AI dialogue systems on students' cognitive abilities: A systematic review. *Smart Learning Environments*, 11(1), 28. <https://doi.org/10.1186/s40561-024-00316-7>

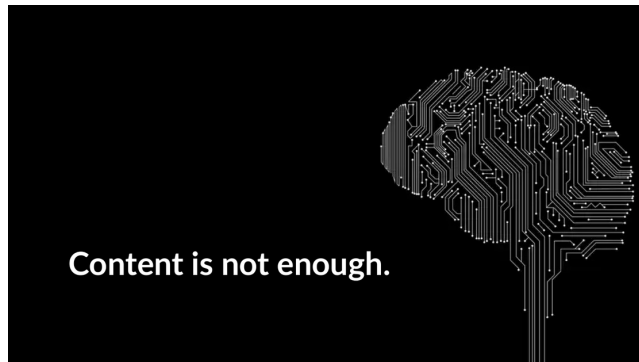
Does solving the cheating problems create citizens who only do the right thing if we are policing them?

Are we solving the wrong problem?



Curiosity
Caring
Integrity
Friction
Boredom
Cognitive Fitness

A NEW 3Rs: RELATIONSHIPS, RESILIENCE, REFLECTION



Only 27% of graduates strongly agreed that “my professors cared about me as a person” — yet these experiences double the odds of being engaged at work and thriving in well-being after college.

Gallup-Purdue Index. (2014). Great jobs, great lives.

<https://www.luminafoundation.org/files/resources/gallup-purdue-index-report-2014.pdf>

Busteed, B. (2014). The biggest blown opportunity in higher ed history. Gallup.

► [Teaching Change at Johns Hopkins University Press — code HTWN for 30% off](#)

► [Teaching Change on Amazon \(often 25% off\)](#)

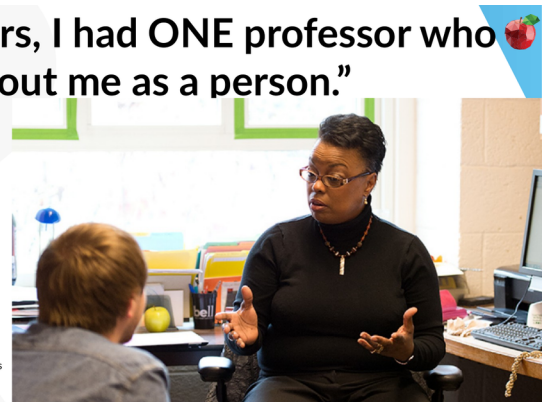
Bowen, J. A. (2021). Teaching change: How to develop independent thinkers using relationships, resilience, and reflection. Johns Hopkins University Press.

“In 4 years, I had ONE professor who cared about me as a person.”

National
Average

27%

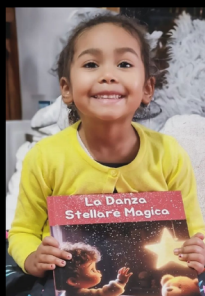
Gallup: 75,000 college graduates



GENERIC or CUSTOMIZED?



Touchnote



Scarlett Panda

Greeting Cards
Bedtime Stories
Birthday Songs

Treatment Plans
Instructions
Textbooks
Assignments
Exams



► [Touchnote](#)

► [Scarlett Panda](#)

Increase Relevance & Customization



Sweller, J. (1988); Clark, R., Nguyen, F., & Sweller, J. (2006); Paas, F., Renkl, A., & Sweller, J. (2003)

Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285.

https://doi.org/10.1207/s15516709cog1202_4

Clark, R., Nguyen, F., & Sweller, J. (2006). Efficiency in learning: Evidence-based guidelines to manage cognitive load. Pfeiffer.

Paas, F., Renkl, A., & Sweller, J. (2003). Cognitive load theory and instructional design: Recent developments. *Educational Psychologist*, 38(1), 1–4.

https://doi.org/10.1207/S15326985EP3801_1

VIBE CODING

Create and deploy an interactive superhero-themed game to teach the Bingham plastic model through visual simulation to college students in both English and Arabic.



- ▶ [Play the Claude version](#)
- ▶ [Play the ChatGPT version](#)

Got it — I'll deliver the game in **Arabic + English**, packaged as a **standalone web app** you can open in your browser or run locally without installing anything complicated.



Could an AI-assisted assignment INCREASE

Reflection?



Multiple Perspectives Prompt

Respond as a panel of radically different types of thinkers

- with a variety of historical, cultural & political perspectives
- who ask thought-provoking questions and
- deepen my insight
- by providing simultaneous and contrasting opinions
- and feedback about this work/idea/goal/challenge.

Complete Prompt:

Respond as a panel of radically different types of thinkers with a variety of historical, cultural and political perspectives who ask thought-provoking questions and deepen my insight by providing simultaneous and contrasting opinions and feedback about this work/idea/goal/challenge.

Try: faculty with different disciplinary or theoretical backgrounds; citizens with contrasting politics, religions and geographies; historical figures (using their own texts as sources).

Expand Perspectives



- How could I make these instructions clearer?
- What might appear insensitive/unclear to X?
- Help me practice for an interview.

YOU TRY: Read It as a Student Would (slide 63)

► [Workshop Prompts & Materials](#)

Complete Prompt:

Tell me how this X (email / academic honesty policy) might be confusing or unclear to students at Y... and how could I make it clearer, better and more inclusive.

► [What the studies say about how AI affects thinking \(overview of 30+ studies\)](#)

Nasr, N. R., Tu, C.-H., Werner, J., Bauer, T., Yen, C.-J., & Sujo-Montes, L. (2025). Exploring the impact of generative AI ChatGPT on critical thinking in higher education.

AI could improve **TEACHING**

AI could improve **STUDENT SUPPORT**

AI could improve **REFLECTION & LEARNING**

But only if we use it well



AI and The Brain Meta-Analysis

Unregulated AI replaces cognitive work and harms learning.

AI designed for teaching can scaffold & improve learning.

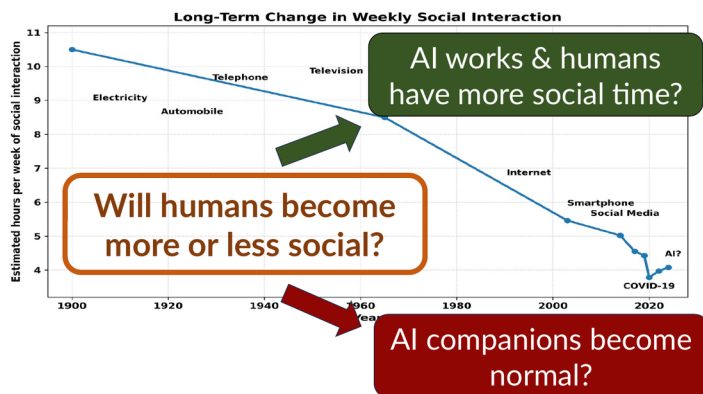
The same AI interaction can create empowerment or dependency depending on HOW you think about it

Education Sciences, 15(9), 1198.

<https://doi.org/10.3390/educsci15091198>

Edwards, H., & Edwards, D. (2025). How we think and live with AI: Early patterns of human adaptation. Artificiality Journal.

<https://journal.artificialityinstitute.org/how-we-think-and-live-with-ai-early-patterns-of-human-adaptation/>



Will humans become more or less social? The American Time Use Survey only goes back to 2003, so the rest of this curve is extrapolation.

Guingrich, R. E., & Graziano, M. S. A. (2025). Chatbots as social companions. In Oxford Intersections: AI in Society. <https://doi.org/10.1093/9780198945215.003.0011>



Relationships require practice — and 72% of teenagers are already practicing with AI.

Common Sense Media. (2025). Talk, trust and trade-offs: How and why teens use AI companions.

https://www.commonsensemedia.org/sites/default/files/research/report/talk-trust-and-trade-offs_2025_web.pdf

COGNITIVE DELEGATION



Kranzberg, M. (1986). Technology and history: "Kranzberg's laws." Technology and Culture, 27(3), 544-560.

UNDERSTANDING COGNITIVE DELEGATION

*is essential for the
future of human cognitive fitness*



Which tasks
should AI do?



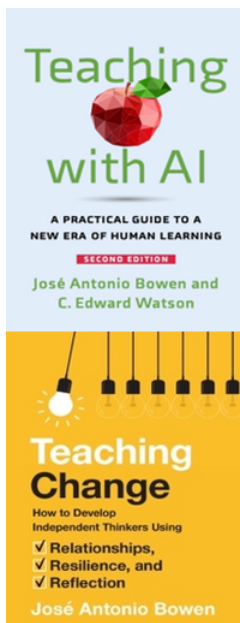
When should I NOT
use AI?



From Professor of Content
To Cognitive Coach

Bandura, A. (1997). Self-efficacy: The exercise of control.
Freeman. [mastery experiences build self-efficacy]

CITATIONS & RESOURCES



- ▶ [WeTeachWithAI.com](https://www.weteachwithai.com) contains many many more resources, prompts, assignments and links. It is updated weekly if not daily.
- ▶ **Buy the book at 30% off!**
- ▶ [Teaching with AI at Johns Hopkins University Press — code HTAI25 for 30% off](#)
- ▶ [Teaching with AI on Amazon](#)
- ▶ If you don't want to use AI, but want students to want to do things the hard way, then read **Teaching Change: How to Develop Independent Thinkers Using Relationships, Resilience and Reflection**.
- ▶ [Teaching Change at Johns Hopkins University Press — code HTWN for 30% off](#)
- ▶ [Teaching Change on Amazon \(often 25% off\)](#)